Sept. 15, 1942. R. G. PETERSON 2,295,806

ANAESTHESIA AND SURGERY RESTRAINING DEVICE

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Fig. 1

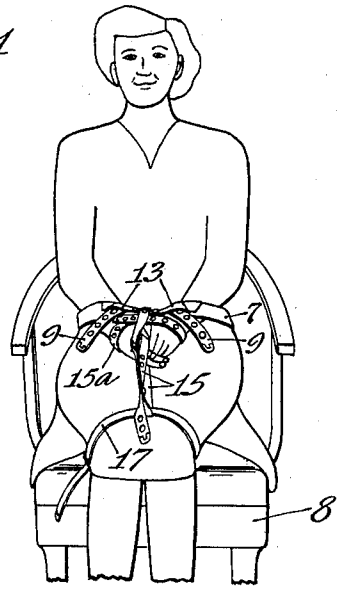


Fig. 2

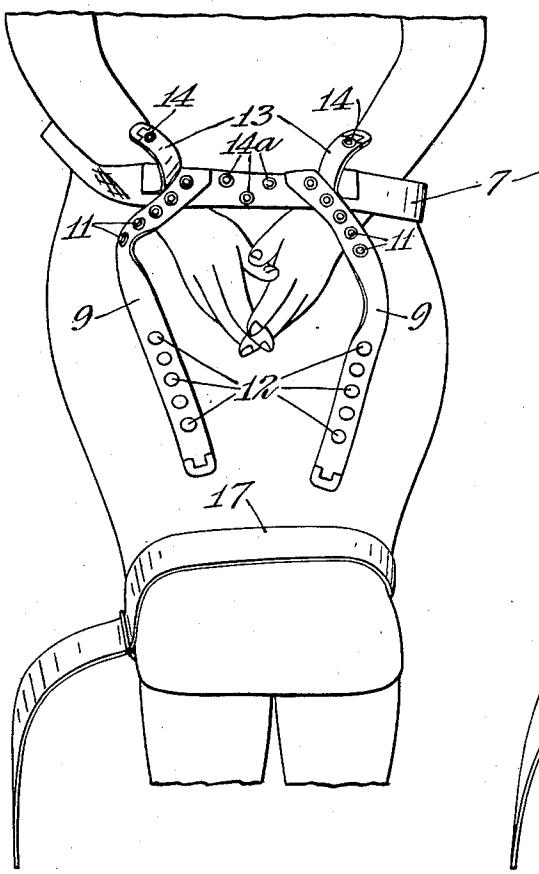
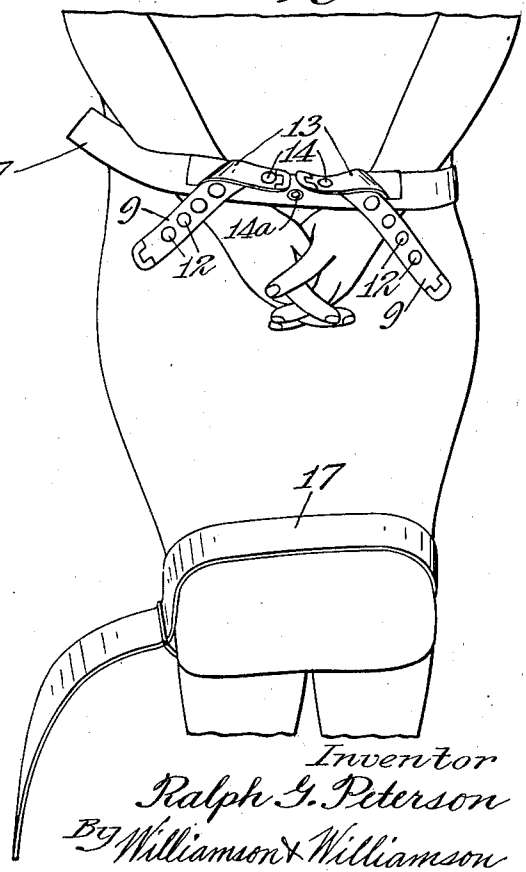


Fig. 3



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Fig. 4

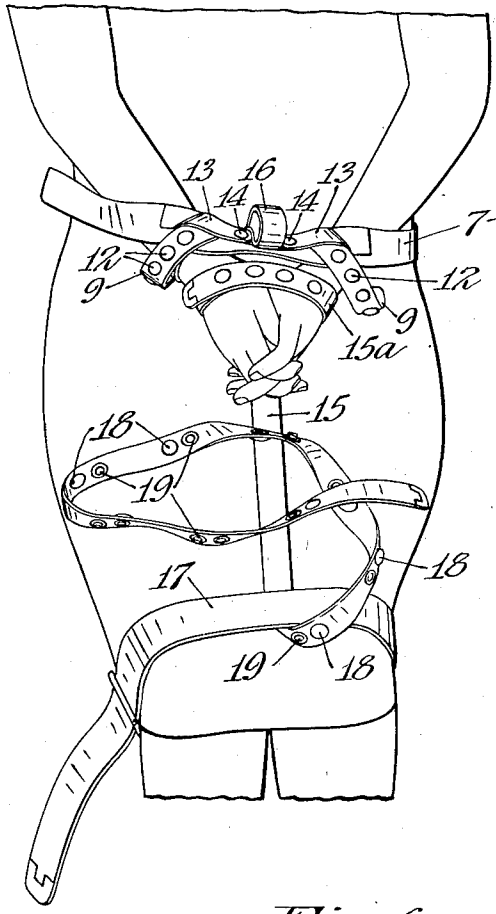


Fig. 5

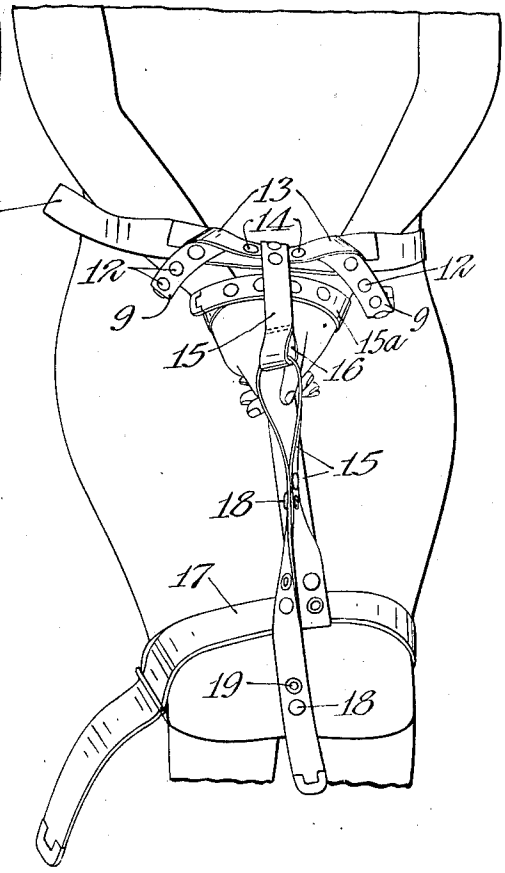
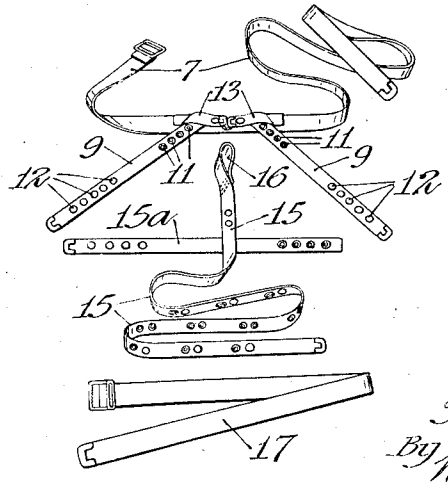


Fig. 6



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UNITED STATES PATENT OFFICE

2,295,806

ANESTHESIA AND SURGERY RESTRAINING DEVICE

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5 Claims. (Cl. 128—134)

This invention relates to restraining devices and more particularly to devices for restraining the hands and arms of the patient against movement. In numerous cases of dental surgery when the patient is placed under a general anesthetic he becomes exceptionally unruly during certain stages of the anesthesia. In other cases where local anesthetics are used it is difficult for the patient to restrain himself due to nervous reaction. This is particularly prevalent amongst children. Another example where restraining devices are used is in the case of certain types of brain operations which cannot be performed with the patient lying down. The operation is performed with the patient in a sitting position and if he is under general anesthetic he tends to slump down in the chair so that means must be provided to maintain him in the necessary posture.

While the device is particularly intended for use in cases where anesthesia and/or surgery are used the restraining device is also useful in the handling of mental patients who at times become extremely unruly.

It is a general object of my invention to provide a restraining device which will firmly hold the arms of the patient so that they cannot flail about and at the same time retain the patient in the proper position desired for medical or surgical treatment.

Another object of the invention is to provide means for additionally holding the hands of the patient in a more complete restraint where the conditions require it.

A further object of the invention is to provide a restraining device of the general character set forth above wherein the various portions thereof can be quickly and easily connected and disconnected and wherein safety means is provided to insure against accidental release of the restraint through attempted movements of the patient.

These and other objects and advantages of the invention will more fully appear from the following description made in connection with the accompanying drawings wherein like reference characters refer to the same parts throughout the views, and, in which:

Fig. 1 is a front elevation of a patient seated in a chair with my invention secured in position;

Fig. 2 is an enlarged detail with the body belt in place and the wrist straps unattached;

Fig. 3 is a view similar to Fig. 2 with the wrist straps secured in position;

Fig. 4 shows the arrangement of Fig. 3 with the addition of restraining means encircling the hands;

Fig. 5 illustrates the securing of an anchoring strap; and

Fig. 6 is a plan view of the entire restraining apparatus removed from the patient.

In the drawings there is shown a body belt 7 which is adapted to extend across the lower body portion of the patient and be suitably secured around the back of a chair such as the chair 8 shown partially in Fig. 1. It will be seen from the figures that the patient is placed in a seated position with the hands together and with the body belt 7 overlying the wrists. Extending downwardly from the forwardly disposed intermediate portion of the body belt 7 are wrist straps 9 which are shown to diverge from each other. The upper end portions of the straps 9 are provided with a series of fastener heads 11 and the lower or free ends of said wrist straps 9 are provided with fastener sockets 12, the sockets having their open portions on the undersides of said wrist straps in Figs. 2 through 5. In Fig. 3 the wrist straps 9 are shown after they have been passed beneath the wrists and then over so that one of the fastener sockets 12 is placed over onto the fastener heads 11 to secure each of the straps about the wrists of the patient.

In Figs. 2 and 3 there is shown a pair of short safety straps 13 one end of each strap being secured to the body belt 7 in any suitable manner such as by sewing and the free end of each strap being provided with a fastener socket 14 adapted to snap over adjacent fastener heads 14a in the manner shown in Fig. 3. Thus the safety straps 13 overlie the looped wrist straps 9 to prevent their separation. It is well understood in the fastener art that head and socket fasteners are generally separated by nearly axial pulling movement and with the safety straps placed over the wrist straps where their adjacent end portions are fastened together by the head and socket fasteners the patient can twist his arms and attempt to swing them about with a considerable amount of force but the wrist straps 9 will remain connected because of the safety straps 13 which overlie them.

In Fig. 4 there is shown an anchor strap 15 having a loop 16 at its upper end. Near the upper end of the anchor strap 15 a cross strap 15a is secured thereto and said cross strap 15a is shown looped about the hands of the patient to pull them closely together. The upper end portion of the anchor strap 15 is passed up beneath the hands of the patient and also beneath the

body belt 7 and thence brought downwardly over the top of said body belt 7 in the manner shown in Fig. 5. The lower portion of the anchor strap 15 is first passed beneath a knee encircling strap 17 and thence upwardly through the loop 16 and finally brought down upon itself as shown in Fig. 5. It will be seen that the lower portion of anchor strap 15 is provided with pairs of fastener elements, each pair being made up of a socket 18 and head 19. The strap is pulled tight through the loop 16 and adjacent pairs of fastener elements 18, 19 are secured to each other by snapping them together. The anchor strap 15 is shown in place in Fig. 5.

For uses where the patient is not particularly unruly but is likely to move his arms about and interfere with the treatment it is sufficient to use only that portion of the device as it is applied in Fig. 3, that is with the wrist straps 9 encircling the wrists and with the safety straps 13 overlying the wrist straps where they are connected. It might, however, be desirable to apply the knee strap 17 to better prevent the patient from moving. It is, of course, understood in all applications of the body belt 7 that it should go around the back of a chair where a surgical procedure is to take place. This keeps the patient in the chair and prevents him from slumping downwardly while unconscious.

In Figs. 4 and 5 there is shown the application of the anchor strap 15 with its hand encircling cross strap 15*a* which even more securely keeps the patient in proper position. The hands are then held against movement and the hands and wrists are pulled down tightly due to the connection of the anchor strap 15 between the body belt 7 and the knee strap 17.

The use of snap fasteners such as have been described above greatly expedites the application of the restraint as well as it removal. Speed and facility of application and removal are important in a device of this type since the use of the restraint does not then affect the nerves of the patient to any great degree. It is more desirable to apply the restraint while the patient is conscious and if he is not subjected to lengthy manipulation of the apparatus in its application he will remain much more calm and in better condition for the treatment for which he is being prepared. Because the various straps can be easily connected and disconnected I provide the safety straps 13 so that the main restraining elements, namely the wrist straps 9, will not become accidentally unfastened.

The straps are preferably made of a soft pliable material such as pre-shrunk woven cotton or a synthetic fibrous material which can be laundered and sterilized. An additional advantage of the snap fasteners is that they are smooth and have no sharp prongs such as is the case in ordinary buckles which have proven by experience to occasionally injure the skin of the patient's hands or arms. The snap fasteners should be plated so that they will not tarnish, corrode or become easily marked with scratches.

While I have disclosed the invention as being used on a patient being seated in a chair, it is, of course, to be understood that it could also be used on an operating table or any other suitable medical or surgical equipment.

While I have described my invention as being particularly adaptable for use with anesthesia and/or surgery it is, of course, to be understood that it might have various other applications such as in the case of mental patients. In the latter event the strap arrangement can be placed at the rear of the patient with his hands behind him to prevent him from struggling during periods where mental state brings on violent physical reactions, and, of course, it will be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of my invention.

What is claimed is:

1. In a restraining device for anesthesia and surgery and the like, a belt adapted to be secured about the lower body portion of a patient and overlie his wrists, a pair of wrist straps secured to said belt in relatively closely spaced relation and diverging downwardly from said belt, each of said straps being adapted to be looped upon itself and about a wrist of the patient, quick detachable connectors for holding said straps in their looped positions, and a pair of safety straps secured to said belt and overlying said wrist encircling straps when the latter are in their detachably looped positions to prevent accidental displacement of the quick detachable connectors on said wrist encircling straps.

2. In a restraining device for anesthesia and surgery and the like wherein the hands of patient lie adjacent each other and adjacent the body, a belt adapted to be secured about the lower body portion of a patient and lie across his wrists, a pair of wrist straps secured to said belt in relatively closely spaced relation and diverging outwardly from said belt, quick detachable connections on said wrist straps and comprising separable head and socket fasteners separable under actual tension, said wrist straps being foldable upon themselves to provide wrist encircling loops and securable in that position by said quick detachable connections, and a pair of safety straps secured to said belt and positioned to be swung over said looped wrist straps and having quick detachable connectors for releasably securing them over said wrist straps, said wrist straps preventing accidental release of said wrist strap connectors when subjected to strains by movement of the patient.

3. In a restraining device for anesthesia and surgery, a belt adapted to be secured about the lower body portion of a patient and overlie his wrists, a pair of wrist straps secured to said belt in relatively closely spaced relation and diverging away from said belt, said wrist straps being adapted to encircle the wrists of the patient, a leg encircling strap adapted to be positioned about the legs of the patient adjacent his knees, and an anchor strap extending about said body belt, one end of said anchor strap having a loop thereon adapted to receive the opposite end of said anchor strap, and connector means for detachably securing said opposite end of said anchor strap into a loop to connect the two ends of said anchor strap together.

4. In a restraining device for anesthesia and surgery, and the like, a belt adapted to be secured about the body portion of a patient and overlie his wrists, a pair of wrist straps secured to said belt in relatively closely spaced relation and having free ends, said wrist straps being adapted to encircle the wrists of the patient and having means for securing them while so encircling the wrists, an anchor strap detachably connected to said belt and having means for securing the same to an anchoring means, said anchor strap having a laterally extending hand strap spaced a short distance from said belt and

adapted to encircle and releasably restrain the hands of the patient a short distance from said wrist straps.

5. In a restraining device for anesthesia and surgery and the like, a belt adapted to be secured about the lower body portion of a patient and overlie his wrists, a pair of wrist straps secured to said belt in spaced relation and diverging downwardly from said belt, each of said straps being adapted to be looped upon itself and about a wrist of the patient, quick detachable connectors for holding said straps in their looped positions, and a pair of safety straps secured to said belt and overlying said wrist encircling straps when the latter are in their detachably looped positions to prevent accidental displacement of the quick detachable connectors on said wrist encircling straps.

RALPH G. PETERSON.